## WHAT IS CLAIMED IS:

1	1. A method for identifying a compound that modulates sensory
2	signaling in sensory cells, the method comprising the steps of:
3	(i) contacting the compound with a sensory cell specific G-protein
4	alpha subunit polypeptide, the G-protein alpha subunit polypeptide comprising greater
5	than 70% aming acid sequence identity to a polymentide having a sequence of SEO ID

6 NO:2; and

7 (ii) determining a functional effect of the compound upon the G-

8 protein alpha subunit polypeptide.

2. The method of claim 1, wherein the G-protein alpha subunit polypeptide specifically binds to polyclanal antibodies generated against SEQ ID NO:2.

3. The method of elaim-P, wherein the G-protein alpha subunit polypeptide is recombinant.

1 4. The method of claim 1, wherein the functional effect is a chemical effect.

5. The method of-claim 15, wherein the functional effect is a physical effect.

The method of claim 1, wherein the functional effect is determined by measuring binding of radiolabeled GTP to the G-protein alpha subunit polypeptide or to a G protein comprising the G-protein alpha subunit polypeptide.

7. The method of claim 1, wherein the G-protein alpha subunit polypeptide is from a mouse, a rat or a human.

8. The method of claim 1, wherein the G-protein alpha subunit polypeptide comprises an amino acid sequence of SEQ ID NO:2.

9. The method of claim 1, wherein the G-protein alpha subunit polypeptide is expressed in a cell of a cell membrane.

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1	10. The method of claim 9, wherein the functional effect is measured
2	by determining changes in the electrical activity of cells expressing the G-protein alpha
3	subunit polypeptide.
1	11. The method of claim 10, wherein the changes in electrical activity
2	are measured by an assay selected from the group consisting of a voltage clamp assay, a
3	patch clamp assay, a radiolabeled ion flux assay, or a fluorescence assay using voltage
4	sensitive dyes.
1	12. The method of claim 9, wherein the functional effect is determined
2	by measuring changes in the level of phosphorylation of sensory cell specific proteins.
1	13. The method of claim 9, wherein the functional effect is determined
2	by measuring changes in transcription levels of sensory cell specific genes.
1	14. The method of claim 9, wherein the functional effect is determined
2	by measuring changes in intracellular cAMP, cGMP, IP <sub>3</sub> , DAG, or Ca <sup>2+</sup> .
1	15. The method of claim 14, wherein the changes in intracellular
2	cAMP or cGMP are measured using immunoassays.
1	16. The method of claim 9, wherein the cell or cell membrane is
2	attached to a solid substrate.
1	17. The method of claim 9, wherein the cell is a eukaryotic cell.
1	18. The method of claim 17, wherein the cell is a human cell.
1	19. The method of claim 18, wherein the cell is an HEK 293 cell.
1	20. The method of claim 9, wherein the G-protein alpha subunit
2	polypeptide is co-expressed with GPCR-B3 or GPCR-B4.
1	21. The method of claim 1, wherein the G-protein alpha subunit
2	polypeptide is linked to a solid phase.
1	22. The method of claim 21, wherein the G-protein alpha subunit
2	polypeptide is covalently linked to the solid phase.

1	23. A method for identifying a compound that modulates sensory
2	signaling in sensory cells, the method comprising the steps of:
3	(i) expressing a sensory cell specific G-protein alpha subunit
4	polypeptide in an HEK 293 host cell, wherein the G-protein alpha subunit polypeptide
5	comprises greater than 70% amino acid sequence identity to a polypeptide having a
6	sequence of SEQ ID NO:2;
7	(ii) expressing a sensory cell specific G-protein coupled receptor in
8	the host cell;
9	(iii) contacting the host cell with the compound that modulates
10	sensory signaling in sensory cells; and
11	(iv) determining changes in intracellular calcium levels in the host
12	cell.
1	24. The method of claim 23, wherein the sensory cell specific G-
2	protein coupled receptor is GPCR-B3 or GPCR-B4.